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EARLY REPOLARIZATION AND RISK FOR VENTRICULAR ARRHYTHMIAS IN PATIENTS WITH CORONARY ARTERY DISEASE: A META-ANALYSIS

Poster Contributions
Hall C
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Background: Early repolarization pattern (ERP) has recently been associated with increased risk of sudden cardiac death, cardiovascular mortality and ventricular tachyarrhythmias in the general population. However, it is not clear which subgroups of subjects with ERP are at higher risk for events. The aim of this study was to determine the direction and magnitude of any association between ERP and risk for ventricular arrhythmias in coronary artery disease patients.

Methods: We conducted a meta-analysis of all cohort and case-control studies that had reported an association between ERP and cardiac events in patients with coronary artery disease published through July 30, 2013. We searched PUBMED, Embase and Cochrane databases. Cardiac events included ventricular fibrillation, ventricular tachycardia, sudden cardiac death and cardiac death. We calculated the pooled odds ratios (OR) and relative risk (RR) of having cardiac events using the DerSimonian random effects model comparing those with ERP and those without stratified by study design.

Results: We included four case-control studies with information on 1244 subjects and two cohort studies with information on 291 subjects. The OR of having cardiac events in those with ERP was 2.40 (95 % CI: 1.76 to 3.27; p = 0.01) when compared to those without ERP for case-control studies. When regional leads were analyzed, the OR of cardiac events for those with ERP in the inferior leads was 1.1 (95% CI: 0.9 to1.5; p = 0.40) and the OR for those with ERP in the lateral leads was 1.1 (95% CI: 0.9 to 1.3; p = 0.20). In regard to morphological characteristics, the OR for those with ERP with notching configuration was 1.6 (95% CI: 1.0 to 2.6; p = 0.02). For cohort studies the RR of having cardiac events for those with ERP was 5.0 (95% CI: 3.0 to 8.2; p = 0.01) when compared to those without ERP.

Conclusions: The results indicate that ERP is associated with a higher probability of having cardiac events in coronary artery disease patients in both case-control and cohort studies. ERP with notching configuration had an increased risk for cardiac events in subgroup studies while there was no statistically significant association in prevalence of ERP in each regional lead.